

II. CLAIMS

1. (Currently amended) A $G_{\alpha q}$ -Gustducin chimeric G-protein wherein the last 44 amino acids of the $G_{\alpha q}$ protein sequence are replaced with a 44 amino acid unit of Gustducin, where such 44 amino acid unit of Gustducin is the last 44 amino acids of SEQ ID NO:2, and wherein the resulting $G_{\alpha q-qute44}$ chimeric G-protein has a sequence homology of at least 90% to SEQ ID NO:2.

2. (Previously Presented) The chimeric $G_{\alpha q}$ -Gustducin according to claim 1 characterised in that it is a $G_{\alpha 15}$ or $G_{\alpha 16}$ -Gustducin protein.

3-4. Cancelled

5. (Currently Amended) A chimeric G-protein according to claim 1 having the amino acid sequence set forth in the SEQ ID NO:2.

6. (Currently Amended) A G-protein according to claim 1 encoded for by the nucleic acid set forth in SEQ ID NO:1.

7. (Currently Amended) A nucleic acid comprising the nucleotide sequence set forth in SEQ ID NO:1 encoding for a G-protein according to claim 1.

8. (Currently Amended) An expression vector comprising nucleic acid comprising the nucleotide sequence set forth in SEQ ID NO:1 encoding for a G-protein according to claim 1.

9. (Previously Presented) A host cell transformed with an expression vector according to claim 8.

10. (Previously Presented) A method of producing a chimeric G-protein according to claim 1 comprising the step of culturing host cells having contained therein an expression vector encoding for the chimeric G-protein, under conditions sufficient for expression of said G-protein, thereby causing production of the protein, and recovering the protein produced by the cell.

11. (Previously Presented) A method of analysis and discovery of modulators of bitter taste receptors using the chimeric proteins according to defined in claim 1.

12. (Previously Presented) A method according to claim 11 employing a mammalian cell-based assay employing a transfected gene or cDNA encoding a chimeric protein of the invention and a taste receptor, the method comprising the steps of contacting a compound with cells, and determining the functional effect of the compound on chimeric G-protein.

13. (Previously Presented) A method according to claim 10 wherein the functional effect is determined by measuring the changes in intracellular messengers IP₃ or calcium²⁺.

14-17. Cancelled